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A

MENTAL ARITHMETIC,

UPON THE

INDUCTIVE PLAN;

WITH

EASY EXERCISES FOR THE SLATE.

DESIGNED FOR

PRIMARY SCHOOLS.

BY BENJAMIN GREENLEAF, A.M.,
AUTHOR OF "COMMON SCHOOL ARITHMETIC," ETC.

IMPROVED EDITION.

BOSTON:
PUBLISHED BY ROBERT S. DAVIS & CO.
NEW YORK: D. APPLETON & CO., AND MASON BROTHERS.
PHILADELPHIA: J. B. LIPPINCOTT & CO.
CHICAGO: KEEN & LEE.
1859.

Educ T 118.59.436

Entered according to Act of Congress, in the year 1845, by
BENJAMIN GREENLEAF,
In the Clerk's Office of the District Court of the District of Massachusetts.

Entered according to Act of Congress, in the year 1851, by
BENJAMIN GREENLEAF,
In the Clerk's Office of the District Court of the District of Massachusetts.

Entered according to Act of Congress, in the year 1857, by
BENJAMIN GREENLEAF,
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PREFACE.

THE object of this primary book is to teach the pupil how to *think*, and to enable him, by an almost imperceptible gradation of thought, to advance from the simplest forms of reasoning to the more vigorous exercises of the mind.

Hence, no arbitrary *rules* have been introduced, and only such hints and suggestions, with occasional formulas of reasoning, as were considered absolutely necessary for the profitable study of the lessons.

In order that the reasoning of some of the principal processes might be the more apparent to the beginner, pictures of objects have been, to some extent, introduced. After these, counters are employed, as unit marks; and then follow lessons without any such aids, that the learner may early acquire the habit of depending upon mental resources alone for the solution of problems. This arrangement is deemed not only the most simple and progressive, but that which is confirmed, by the experience of teachers, as the best suited to produce a normal mental development.

Several pages of *written* arithmetic have been introduced, at the close of the work, which can be used while the pupil is advancing in the *mental* department, or omitted until that is finished.

BRADFORD, MASS., *July*, 1857.

SUGGESTIONS TO TEACHERS.

The lessons assigned to the learner should never be longer than will admit of being thoroughly prepared for recitation.

The better to secure the attention of each member of the class, and elicit earnestness of thought, the questions should be read to the whole class, and each pupil taught to be in readiness, in whatever order called upon, to give promptly the solution required.

The solutions should be uniformly according to such forms as are deemed by the teacher the neatest and best. The greatest care should be observed to have them always expressed in language entirely accurate, and pronounced in a clear and distinct manner.

Frequent reviews, especially of the tables, will alone give thoroughness. In general, with a lesson in advance, it will be advantageous to assign some portion previously gone over, as a review.

The exercises for the slate may, if thought best, be performed in connection with those that are purely mental; but the slate should not be allowed to be used in the performance of the latter.

Every term, or process, connected with any of the lessons, which the beginner may be likely not readily to understand, the intelligent teacher will not need to be reminded, should be clearly explained to the pupil, before assigning the lesson.

MENTAL ARITHMETIC.

LESSON I

1. If you wish to know how many fingers you have, what must you do?

Answer. I must count them.

2. What, then, is counting?

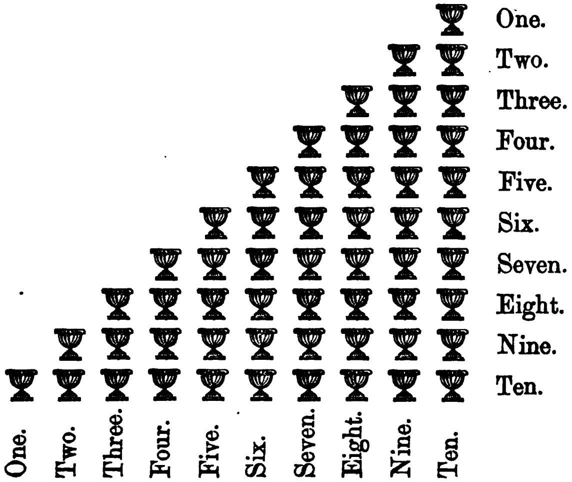
Ans. Finding the number of things.

3. In counting, what is a single thing called?

Ans. A unit, or one.

4. What, then, is a number?

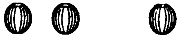
Ans. A unit, or a collection of units.



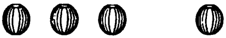
5. Count the cups in each of the above rows.

LESSON II.

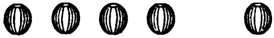
1. One ball and one ball are how many balls?



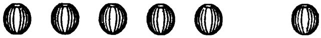
2. Two balls and one ball are how many balls?



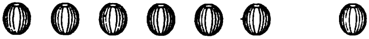
3. Three balls and one ball are how many balls?



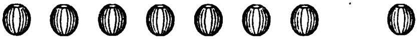
4. Four balls and one ball are how many balls?



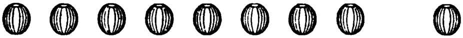
5. Five balls and one ball are how many balls?



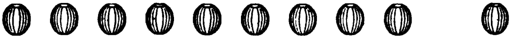
6. Six balls and one ball are how many balls?



7. Seven balls and one ball are how many balls?



8. Eight balls and one ball are how many balls?



9. Nine balls and one ball are how many balls?

Note to Teachers. — The above exercise is designed to aid the pupil in learning to count; other exercises should be provided, by means of counters, or the counting frame, till the pupil can readily count at least one hundred.

LESSON III.

Number.	Printed Figures.	Written Figures.	Number.	Printed Figures.	Written Figures.
One,	1	1	Twenty-one,	21	21
Two,	2	2	Twenty-two,	22	22
Three,	3	3	Twenty-three,	23	23
Four,	4	4	Twenty-four,	24	24
Five,	5	5	Twenty-five,	25	25
Six,	6	6	Twenty-six,	26	26
Seven,	7	7	Twenty-seven,	27	27
Eight,	8	8	Twenty-eight,	28	28
Nine,	9	9	Twenty-nine,	29	29
Ten,	10	10	Thirty,	30	30
Eleven,	11	11	Thirty-one,	31	31
Twelve,	12	12	Thirty-two,	32	32
Thirteen,	13	13	Thirty-three,	33	33
Fourteen,	14	14	Thirty-four,	34	34
Fifteen,	15	15	Thirty-five,	35	35
Sixteen,	16	16	Thirty-six,	36	36
Seventeen,	17	17	Thirty-seven	37	37
Eighteen,	18	18	Thirty-eight,	38	38
Nineteen,	19	19	Thirty-nine,	39	39
Twenty,	20	20	Forty,	40	40

LESSON IV.

Number.	Printed Figures.	Written Figures.	Number.	Printed Figures.	Written Figures.
Forty-one,	41	41	Sixty-one,	61	61
Forty-two,	42	42	Sixty-two,	62	62
Forty-three,	43	43	Sixty-three,	63	63
Forty-four,	44	44	Sixty-four,	64	64
Forty-five,	45	45	Sixty-five,	65	65
Forty-six,	46	46	Sixty-six,	66	66
Forty-seven,	47	47	Sixty-seven,	67	67
Forty-eight,	48	48	Sixty-eight,	68	68
Forty-nine,	49	49	Sixty-nine,	69	69
Fifty,	50	50	Seventy,	70	70
Fifty-one,	51	51	Seventy-one,	71	71
Fifty-two,	52	52	Seventy-two,	72	72
Fifty-three,	53	53	Seventy-three,	73	73
Fifty-four,	54	54	Seventy-four,	74	74
Fifty-five,	55	55	Seventy-five,	75	75
Fifty-six,	56	56	Seventy-six,	76	76
Fifty-seven,	57	57	Seventy-seven,	77	77
Fifty-eight,	58	58	Seventy-eight,	78	78
Fifty-nine,	59	59	Seventy-nine,	79	79
Sixty,	60	60	Eighty,	80	80

LESSON V.

Number.	Printed Figures.	Written Figures.	Number.	Printed Figures.	Written Figures.
Eighty-one,	81	81	Ninety-one,	91	91
Eighty-two,	82	82	Ninety-two,	92	92
Eighty-three,	83	83	Ninety-three,	93	93
Eighty-four,	84	84	Ninety-four,	94	94
Eighty-five,	85	85	Ninety-five,	95	95
Eighty-six,	86	86	Ninety-six,	96	96
Eighty-seven,	87	87	Ninety-seven,	97	97
Eighty-eight,	88	88	Ninety-eight,	98	98
Eighty-nine,	89	89	Ninety-nine,	99	99
Ninety,	90	90	One Hundred,	100	100

Write on the slate or black-board, in figures:

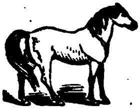
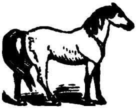
1. Three, eight, thirteen, twenty-three, thirty-one, fifty-two, seventy-four, seventy-nine.

2. Eighty-one, eighty-five, eighty-eight, ninety, ninety-six, eighty-three, ninety-nine, one hundred.

Read the following figures:

(3.)	(4.)	(5.)	(6.)	(7.)	(8.)
2	8	20	17	51	35
5	10	27	79	99	54
7	11	31	97	62	69
9	13	44	25	83	77
1	16	66	30	98	100

LESSON VI.

1. 1 horse and 1 horse are how many horses?
How many are 1 and 1?

2. 1 vessel and 2 vessels are how many vessels?
How many are 1 and 2?

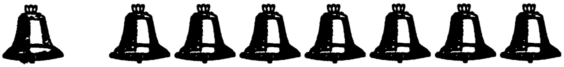
3. On one shelf there is 1 muff, and on another shelf there are 3 muffs. How many muffs are on both shelves?
How many are 1 and 3?

4. Jane put 1 cup on the table, and her sister put on 4 more cups. How many cups did they both put on the table?
How many are 1 and 4?

5. John set out 1 tree, and James set out 5 trees? How many did they both set out?
How many are 1 and 5?

6. Henry has 1 hive of bees, and Edward has 6. How many hives have they both?

How many are 1 and 6?



7. 1 bell and 7 bells are how many bells?

How many are 1 and 7?

8. In Ellen's class there are beside herself 8 girls. How many girls are in her class?

How many are 1 and 8?

9. 1 bird is resting on a branch, and 9 more are flying. How many birds are there in all?

How many are 1 and 9?

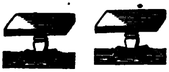
Repeat the table:

1 and 1 are 2.
1 and 2 are 3.
1 and 3 are 4.
1 and 4 are 5.
1 and 5 are 6.
1 and 6 are 7.
1 and 7 are 8.
1 and 8 are 9.
1 and 9 are 10.
1 and 10 are 11.

LESSON VII.

1. George had 2 clusters of grapes, and his father gave him 1 more cluster. How many clusters had he then?

How many are 2 and 1?



2. In one room there are 2 tables, and in another room there are 2 tables more. How many tables are in both rooms?

How many are 2 and 2?

3. 2 cows and 3 cows are how many cows?

How many are 2 and 3?

4. A merchant at one time sold 2 pitchers, and at another time 4 pitchers. How many did he sell in all?

How many are 2 and 4?

5. 2 caps and 5 caps are how many caps?

How many are 2 and 5?

6. A smith made 2 axes in one day, and 6 in another day. How many did he make in both days?

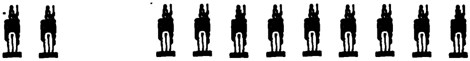
How many are 2 and 6?

7. 2 chairs and 7 chairs are how many chairs?

How many are 2 and 7?

8. A painter has 2 bottles that contain varnish, and 8 that contain oil. How many bottles has he in all?

How many are 2 and 8?



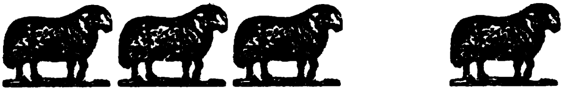
9. 2 soldiers and 9 soldiers are how many soldiers?

How many are 2 and 9?

Repeat the table:

2 and 1 are 3.
2 and 2 are 4.
2 and 3 are 5.
2 and 4 are 6.
2 and 5 are 7.
2 and 6 are 8.
2 and 7 are 9.
2 and 8 are 10.
2 and 9 are 11.
2 and 10 are 12.

LESSON VIII.



1. Arthur had 3 lambs, and his brother gave him 1 more. How many lambs had he then?

How many are 3 and 1?

2. 3 sloops began to sail on the lake, and soon after 3 more. How many sloops were then sailing?

How many are 3 and 3?

3. 3 tumblers and 5 tumblers are how many tumblers?

How many are 3 and 5?

4. 3 umbrellas and 7 umbrellas are how many umbrellas?

How many are 3 and 7?

Repeat the table:

3 and 1 are 4.
3 and 2 are 5.
3 and 3 are 6.
3 and 4 are 7.
3 and 5 are 8.
3 and 6 are 9.
3 and 7 are 10.
3 and 8 are 11.
3 and 9 are 12.
3 and 10 are 13.

LESSON IX.

1. In 4 cars are boys and girls, and in 2 other cars are bags of corn. How many cars in all?
How many are 4 and 2?

2. Frank has 4 baskets of fruit, and Charles has 4 more. How many baskets have they both?
How many are 4 and 4?

3. 4 locks and 5 locks are how many locks?
How many are 4 and 5?

4. Ann has 4 combs, and Helen has 6 combs. How many combs have they both?
How many are 4 and 6?

Repeat the table:

4 and 1 are 5.
4 and 2 are 6.
4 and 3 are 7.
4 and 4 are 8.
4 and 5 are 9.
4 and 6 are 10.
4 and 7 are 11.
4 and 8 are 12.
4 and 9 are 13.
4 and 10 are 14.

LESSON X.

1. Lucy found 5 pins, and Mary found 1 pin. How many pins did both find?

How many are 5 and 1?

2. George paid 5 cents for a writing-book, and 2 cents for a pen. How many cents did he pay for both?

How many are 5 and 2?

3. Thomas recited 5 perfect lessons, and his brother 4. How many did both recite?

How many are 5 and 4?

4. 6 peaches and 5 peaches are how many peaches?

How many are 5 and 6?

Repeat the table:

5 and 1 are 6.
5 and 2 are 7.
5 and 3 are 8.
5 and 4 are 9.
5 and 5 are 10.

5 and 6 are 11.
5 and 7 are 12.
5 and 8 are 13.
5 and 9 are 14.
5 and 10 are 15.

LESSON XI.

1. If I pay 6 cents for paper and 4 cents for a pencil, how many cents do I pay for both?

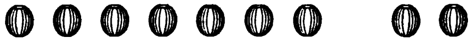
2. John caught 6 fishes, and Daniel caught 5 fishes. How many fishes did both catch?

Repeat the table:

6 and 1 are 7.
6 and 2 are 8.
6 and 3 are 9.
6 and 4 are 10.
6 and 5 are 11.

6 and 6 are 12.
6 and 7 are 13.
6 and 8 are 14.
6 and 9 are 15.
6 and 10 are 16.

LESSON XII.



1. Bought a barrel of flour for 7 dollars, and a barrel of apples for 2 dollars. How many dollars were paid for both?

2. If you had 7 chestnuts, and I should give you 4 more, how many would you then have?

Repeat the table:

7 and 1 are 8.
7 and 2 are 9.
7 and 3 are 10.
7 and 4 are 11.
7 and 5 are 12.

7 and 6 are 13.
7 and 7 are 14.
7 and 8 are 15.
7 and 9 are 16.
7 and 10 are 17.

LESSON XIII.

Repeat the table :

8 and 1 are 9.
8 and 2 are 10.
8 and 3 are 11.
8 and 4 are 12.
8 and 5 are 13.
8 and 6 are 14.
8 and 7 are 15.
8 and 8 are 16.
8 and 9 are 17.
8 and 10 are 18.

1. Albert paid 8 dollars for a globe, and 3 dollars for taking lessons on it. How much did he pay in all?
How many are 8 and 3?

2. Paid 8 dollars for a table, and 9 dollars for some chairs. How many dollars did both cost?
How many are 8 and 9?

LESSON XIV.

Repeat the table :

9 and 1 are 10.
9 and 2 are 11.
9 and 3 are 12.
9 and 4 are 13.
9 and 5 are 14.
9 and 6 are 15.
9 and 7 are 16.
9 and 8 are 17.
9 and 9 are 18.
9 and 10 are 19.

1. Rufus one day rode 9 miles, and the next day 7 miles. How many miles did he ride both days?
How many are 9 and 7?

2. Susan found under one tree 9 apples, and under another 10 apples. How many did she find under both trees? How many are 9 and 10?

LESSON XV.

Repeat the table :

10 and 1 are 11.
10 and 2 are 12.
10 and 3 are 13.
10 and 4 are 14.
10 and 5 are 15.
10 and 6 are 16.
10 and 7 are 17.
10 and 8 are 18.
10 and 9 are 19.
10 and 10 are 20.

1. Alice one forenoon read 10 pages in a book, and in the afternoon 6 pages more. How many pages did she read in all?

How many are 10 and 6?

2. Edwin had 10 marbles, and bought 10 more. How many then had he?

How many are 10 and 10?

LESSON XVI

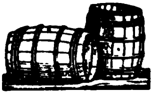
1. How many are 2 and 5? 3 and 5?
2. How many are 4 and 7? 7 and 4?
3. How many are 5 and 6? 6 and 5?
4. How many are 8 and 2? 9 and 1?
5. How many are 10 and 4? Why 14?

Ans. Because 10 and 4 make 14.

6. An omnibus containing 7 persons took in 5 more. How many did the omnibus then contain? Why?

7. How many peaches are 9 peaches and 8 peaches? Why?

LESSON XVII.

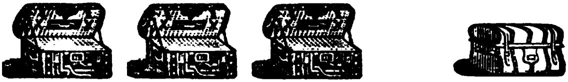


1. 2 casks were standing upright, but 1 of them has been thrown down. What number is left standing?

1 from 2 leaves how many?

2. Farmer Jones had 3 cows, but has sold 1. How many cows has he left?

1 from 3 leaves how many?



3. 4 trunks were open, but a boy has closed 1 of them. How many remain open?

1 from 4 leaves how many?

4. There are 5 pitchers upon a table; 1 of them contains lemonade, and the others water. How many contain water?

1 from 5 leaves how many?

5. In a case are 6 watches. 1 of them is gold, and the others are silver. How many are silver?

1 from 6 leaves how many?

6. A merchant had 7 chests of tea, but has sold 1 chest. How many chests has he left?

1 from 7 leaves how many?

7. A farmer had 8 horses, but has given 1 of them to his son. How many has he left?

1 from 8 leaves how many?

8. 9 sheaves of wheat were standing in a row, but 1 sheaf has been taken away. How many sheaves remain?

1 from 9 leaves how many?

9. A hatter has 10 hats. If he should sell 1 hat, how many hats would he have left?

1 from 10 leaves how many?

Repeat the table:

1 from 1 leaves 0.
1 from 2 leaves 1.
1 from 3 leaves 2.
1 from 4 leaves 3.
1 from 5 leaves 4.
1 from 6 leaves 5.
1 from 7 leaves 6.
1 from 8 leaves 7.
1 from 9 leaves 8.
1 from 10 leaves 9.

LESSON XVIII.

1. George found 3 apples, and gave his brother 2 of them. How many were then left?

2 from 3 leaves how many?

2. Abby had 6 cents, and gave 2 of them for an orange. How many were then left?

2 from 6 leaves how many?

3. There were 8 eggs in a nest, but some one has taken 2 of them away. How many eggs are remaining?

2 from 8 leaves how many?

4. Isabel received one day 9 merit-marks, but Lydia received only 2. How many more merit-marks did Isabel receive than Lydia?

2 from 9 leaves how many?

Repeat the table:

2 from 2 leaves 0.
2 from 3 leaves 1.
2 from 4 leaves 2.
2 from 5 leaves 3.
2 from 6 leaves 4.
2 from 7 leaves 5.
2 from 8 leaves 6.
2 from 9 leaves 7.
2 from 10 leaves 8.
2 from 11 leaves 9.

LESSON XIX.

1. There were in a cage 6 birds, but 3 of them have escaped. How many birds remain?

3 from 6 leaves how many?

2. 8 ships were at sea, and 3 of them were lost in a storm. How many were left?

3 from 8 leaves how many?

Repeat the table:

3 from 3 leaves 0.
3 from 4 leaves 1.
3 from 5 leaves 2.
3 from 6 leaves 3.
3 from 7 leaves 4.
3 from 8 leaves 5.
3 from 9 leaves 6.
3 from 10 leaves 7.
3 from 11 leaves 8.
3 from 12 leaves 9

LESSON XX.

1. 4 sheep from 7 sheep leaves how many sheep?

4 from 7 leaves how many?

2. James had 10 chickens, but a fox carried off 4 of them. How many then remained?

Repeat the table:

4 from 4 leaves 0.
4 from 5 leaves 1.
4 from 6 leaves 2.
4 from 7 leaves 3.
4 from 8 leaves 4.
4 from 9 leaves 5.
4 from 10 leaves 6.
4 from 11 leaves 7.
4 from 12 leaves 8.
4 from 13 leaves 9.

LESSON XXI.

1. If a boy have 6 walnuts, and lose 5 of them, how many will he have left?

5 from 6 leaves how many?

2. Laura had 9 sheets of paper, but has used 5 of them in writing letters. How many sheets has she left?

5 from 9 leaves how many?

Repeat the table:

5 from 5 leaves 0.
5 from 6 leaves 1.
5 from 7 leaves 2.
5 from 8 leaves 3.
5 from 9 leaves 4.
5 from 10 leaves 5.
5 from 11 leaves 6.
5 from 12 leaves 7.
5 from 13 leaves 8.
5 from 14 leaves 9.

LESSON XXII.

1. 6 cents from 7 cents leaves how many cents?

6 from 7 leaves how many?

2. 10 pears grew upon a tree, but 6 have fallen off. How many remain on the tree?

Repeat the table:

6 from 6 leaves 0.
6 from 7 leaves 1.
6 from 8 leaves 2.
6 from 9 leaves 3.
6 from 10 leaves 4.
6 from 11 leaves 5.
6 from 12 leaves 6.
6 from 13 leaves 7.
6 from 14 leaves 8.
6 from 15 leaves 9.

LESSON XXIII.

Repeat the table:

7 from 7 leaves 0.
7 from 8 leaves 1.
7 from 9 leaves 2.
7 from 10 leaves 3.
7 from 11 leaves 4.
7 from 12 leaves 5.
7 from 13 leaves 6.
7 from 14 leaves 7.
7 from 15 leaves 8.
7 from 16 leaves 9.

1. Alfred found under an oak 13 acorns, and Albert found 7 acorns. How many more acorns did Alfred find than Albert?

7 from 13 leaves how many?

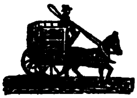
2. Eliza planted 16 seeds, but only 7 came up. How many seeds failed to come up?

7 from 16 leaves how many?

LESSON XXIV.

Repeat the table:

8 from 8 leaves 0.
8 from 9 leaves 1.
8 from 10 leaves 2.
8 from 11 leaves 3.
8 from 12 leaves 4.
8 from 13 leaves 5.
8 from 14 leaves 6.
8 from 15 leaves 7.
8 from 16 leaves 8.
8 from 17 leaves 9.



1. A cab-driver earned in one day 8 dollars, but paid them all away. How many dollars had he left?

8 from 8 leaves how many?

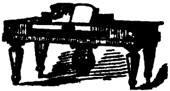
2. Robert caught 11 squirrels, but 8 of them got away. How many remained?

8 from 11 leaves how many?

LESSON XXV.

Repeat the table :

9 from 9 leaves 0.
9 from 10 leaves 1.
9 from 11 leaves 2.
9 from 12 leaves 3.
9 from 13 leaves 4.
9 from 14 leaves 5.
9 from 15 leaves 6.
9 from 16 leaves 7.
9 from 17 leaves 8.
9 from 18 leaves 9.



1. Julia paid at one time for lessons on the piano 15 dollars, and at another time 9 dollars. How many more dollars did she pay at one time than at the other?

9 from 15 leaves how many?

2. From a chest of tea that contained 18 pounds there have been sold 9 pounds. How many pounds remain unsold?

9 from 18 leaves how many?

LESSON XXVI.

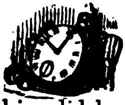
Repeat the table:

10 from 10 leaves 0.
10 from 11 leaves 1.
10 from 12 leaves 2.
10 from 13 leaves 3.
10 from 14 leaves 4.
10 from 15 leaves 5.
10 from 16 leaves 6.
10 from 17 leaves 7.
10 from 18 leaves 8.
10 from 19 leaves 9.

1. A man sold three hats, that cost him 15 dollars, for 10 dollars. How many dollars did he lose?

2. A farmer has 17 sheep and 10 lambs. How many more sheep has he than lambs?

LESSON XXVII.



1. Edmund bought a silver watch for 16 dollars, and sold it for 10 dollars. For how many dollars less than it cost him did he sell it?

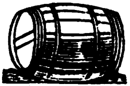
16 less 10 are how many?

2. Willie put 9 strawberries in a cup, and afterwards ate 7 of them. How many then were left?

9 less 7 are how many?

3. How many are 8 less 1? 10 less 3?
4. How many are 6 less 2? 12 less 4?
5. How many are 11 less 5? 14 less 8?
6. How many are 19 less 10? 10 less 9?
7. How many are 17 less 10? 13 less 7?
8. How many are 16 less 8? 15 less 6?

LESSON XXVIII.



1. From a cask of oil containing 16 gallons 9 gallons leaked out. How many gallons remained in the cask? Why 7 gallons?

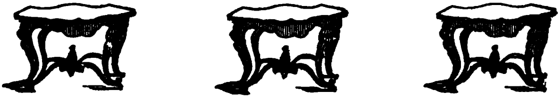
ANS. Because 9 taken from 16 leaves 7. 9 and 7 are 16.

2. Lucy had 11 books, but has given 10 of them away. How many has she left? Why?

3. A lady had in her purse 13 dollars, but has spent 7 of them. How many dollars has she left? Why?

LESSON XXIX.

1. If John should see 1 vessel every time he should go down to the sea-side, how many would he see on going down to the sea-side twice?



2. If a cabinet-maker can finish 1 table every day, how many tables can he finish in 3 days?

3. Nathan visited his grandfather 4 times, and had the present of a lamb each time. How many lambs were presented to him?

4. A turkey was taken from a poultry-yard every night for 6 nights. How many were taken in all?

Repeat the table:

Once 1 is 1.
2 times 1 are 2.
3 times 1 are 3.
4 times 1 are 4.
5 times 1 are 5.
6 times 1 are 6.
7 times 1 are 7.
8 times 1 are 8.
9 times 1 are 9.
10 times 1 are 10.

LESSON XXX.

1. Twice 2 chickens are how many chickens?
2 times 2 are how many?

2. An oyster has 2 shells. How many shells have 3 oysters?
3 times 2 are how many?

3. An ox has 2 horns. How many horns have 5 oxen?
5 times 2 are how many?

4. A merchant sold 2 umbrellas every day for 7 days. How many umbrellas did he sell?
7 times 2 are how many?

Repeat the table:

Once 2 is 2.
2 times 2 are 4.
3 times 2 are 6.
4 times 2 are 8.
5 times 2 are 10.
6 times 2 are 12.
7 times 2 are 14.
8 times 2 are 16.
9 times 2 are 18.
10 times 2 are 20.

LESSON XXXI.

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✤✤ ✤✤

1. What cost 2 yards of cloth, at 3 dollars a yard? 2 times 3 are how many?

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✤✤ ✤✤ ✤✤ ✤✤ ✤✤

2. If 3 quarts of berries can be gathered in 1 hour, how many quarts can be gathered in 5 hours? 5 times 3 are how many?

Repeat the table:

Once 3 is 3.
2 times 3 are 6.
3 times 3 are 9.
4 times 3 are 12.
5 times 3 are 15.
6 times 3 are 18.
7 times 3 are 21.
8 times 3 are 24.
9 times 3 are 27.
10 times 3 are 30.

LESSON XXXII.

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✤✤ ✤✤ ✤✤ ✤✤

1. 1 wagon has 4 wheels. How many wheels have 4 wagons? 4 times 4 are how many?

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✤✤ ✤✤ ✤✤ ✤✤ ✤✤ ✤✤ ✤✤

2. At 4 cents each, what cost 7 pencils?

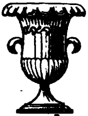
Repeat the table:

Once 4 is 4.
2 times 4 are 8.
3 times 4 are 12.
4 times 4 are 16.
5 times 4 are 20.
6 times 4 are 24.
7 times 4 are 28.
8 times 4 are 32.
9 times 4 are 36.
10 times 4 are 40.

LESSON XXXIII.

Repeat the table:

Once 5 is 5.
2 times 5 are 10.
3 times 5 are 15.
4 times 5 are 20.
5 times 5 are 25.
6 times 5 are 30.
7 times 5 are 35.
8 times 5 are 40.
9 times 5 are 45.
10 times 5 are 50.



1. When one vase costs 5 dollars, how many dollars must be paid for 3 vases?

3 times 5 are how many?

2. If a boat will sail 5 miles in one hour, how far will it sail in 6 hours?

6 times 5 are how many?

LESSON XXXIV.

Repeat the table:

Once 6 is 6.
2 times 6 are 12.
3 times 6 are 18.
4 times 6 are 24.
5 times 6 are 30.
6 times 6 are 36.
7 times 6 are 42.
8 times 6 are 48.
9 times 6 are 54.
10 times 6 are 60.

1. In a garden there are growing 6 rose-bushes, and on each bush there are 2 roses. How many roses are there in all?

2 times 6 are how many?

2. If one barrel of flour cost 6 dollars, how many dollars will 9 barrels cost?

9 times 6 are how many?

LESSON XXXV.

Repeat the table:

Once 7 is 7.
2 times 7 are 14.
3 times 7 are 21.
4 times 7 are 28.
5 times 7 are 35.
6 times 7 are 42.
7 times 7 are 49.
8 times 7 are 56.
9 times 7 are 63.
10 times 7 are 70.

1. When 7 dollars are paid for one sheep, how many dollars must be paid for 5 sheep?

5 times 7 are how many?

2. If one basket will contain 7 apples, how many apples will 8 baskets contain?

8 times 7 are how many?

LESSON XXXVI.

Repeat the table:

Once 8 is 8.
2 times 8 are 16.
3 times 8 are 24.
4 times 8 are 32.
5 times 8 are 40.
6 times 8 are 48.
7 times 8 are 56.
8 times 8 are 64.
9 times 8 are 72.
10 times 8 are 80.

1. What cost 6 stoves, at 8 dollars each?

6 times 8 are how many?

2. If 8 men be required to row one boat, how many men will be required to row 8 boats?

8 times 8 are how many?

LESSON XXXVII.

Repeat the table:

Once 9 is 9.
2 times 9 are 18.
3 times 9 are 27.
4 times 9 are 36.
5 times 9 are 45.
6 times 9 are 54.
7 times 9 are 63.
8 times 9 are 72.
9 times 9 are 81.
10 times 9 are 90.

1. When 9 dollars are paid for one clock, how many dollars must be paid for 3 clocks?

3 times 9 are how many?

2. At 9 cents a pound, what will 10 pounds of sugar cost?

9 times 10 are how many?

LESSON XXXVIII.

Repeat the table:

Once 10 is 10.
2 times 10 are 20.
3 times 10 are 30.
4 times 10 are 40.
5 times 10 are 50.
6 times 10 are 60.
7 times 10 are 70.
8 times 10 are 80.
9 times 10 are 90.
10 times 10 are 100.

1. If a house have 10 windows in front, how many windows in front will 4 houses of the same kind have?

4 times 10 are how many?

2. If a writing-book cost 10 cents, what will 9 writing-books cost?

9 times 10 are how many?

LESSON XXXIX.

1. If one wagon have 4 wheels, how many wheels have 3 wagons?

3 times 4 are how many?

2. What will 2 lemons cost, at 2 cents apiece?

2 times 2 are how many?

3. At 5 cents apiece, what will 7 oranges cost?

5 times 7 are how many?

4. Joseph went a fishing 6 times, and caught 3 fishes each time. How many fishes did he catch?

3 times 6 are how many?

5. What will 4 sheep cost, at 3 dollars each?

4 times 3 are how many?

LESSON XL.

1. If a cow give 6 quarts of milk a day, how many quarts of milk will she give in 8 days?

6 times 8 are how many?

2. Emily bought 10 combs, at 10 cents apiece. How much did she pay for them?

10 times 10 are how many?

3. What will 7 barrels of vinegar cost, at 6 dollars each?

6 times 7 are how many?

4. At 9 cents a pound, what will 4 pounds of sugar cost?

9 times 4 are how many?

5. 8 times 6 are how many? 4 times 9?

LESSON XLI.

1. What cost 4 ploughs, at 10 dollars apiece? Why 40 dollars?

Ans. Since one plough cost 10 dollars, 4 ploughs will cost 4 times 10 dollars, which are 40 dollars.

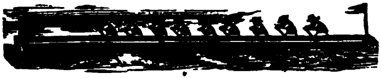
2. Oliver bought 6 melons, at 9 cents each. How much did he pay for all? Why?

3. 5 pear-trees have on each of them 8 pears. How many pears on them all? Why?

4. Caroline has 8 class-mates, and she gave to each 2 apples. How many apples did she give them? Why?

5. What is the cost of 7 hats, at 3 dollars apiece? Why?

LESSON XLII.



1. If 9 men are required to row a boat, how many men will be required to row 5 boats? Why?

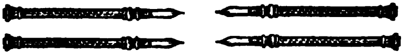
2. What is the cost of 4 pairs of boots, at 4 dollars a pair? Why?

3. If a man can make 6 pairs of shoes in a day, how many pairs can he make in 6 days? Why?

4. What cost 8 pounds of sugar, at 10 cents a pound? Why?

5. Bought 9 cords of wood, at 7 dollars a cord. What was the cost? Why?

LESSON XLIII.



1. A father has given his 2 sons 4 gold pens. How many pens are there to each of the sons?

2 in 4 how many times?

2. A farmer has 6 pigs, which he wishes to put in pens that shall contain only 2 pigs each. How many pens must he have?

3. If it takes 2 shoes to make a pair, how many pairs will 8 shoes make?

2 in 8 how many times?

4. How many pairs of gloves are there in 10 gloves?

2 in 10 how many times?

Repeat the table:

2 in 2, once.
2 in 4, 2 times.
2 in 6, 3 times.
2 in 8, 4 times.
2 in 10, 5 times.
2 in 12, 6 times.
2 in 14, 7 times.
2 in 16, 8 times.
2 in 18, 9 times.
2 in 20, 10 times.

LESSON XLIV.

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✥✥ ✥✥ ✥✥

1. Albert gave his 3 brothers 9 marbles, to be shared equally between them. How many marbles did each of his brothers receive?

✥ ✥ ✥ ✥ ✥
✥✥ ✥✥ ✥✥ ✥✥ ✥✥

2. At 3 cents each, how many pencils can be bought for 15 cents?

Repeat the table:

3 in 3, once.
3 in 6, 2 times.
3 in 9, 3 times.
3 in 12, 4 times.
3 in 15, 5 times.
3 in 18, 6 times.
3 in 21, 7 times.
3 in 24, 8 times.
3 in 27, 9 times.
3 in 30, 10 times.

LESSON XLV.

✥✥
✥✥

1. How many pencils, at 4 cents each, can be bought for 4 cents?

✥✥ ✥✥ ✥✥ ✥✥
✥✥ ✥✥ ✥✥ ✥✥

2. If 4 vests cost 16 dollars, what cost one vest?

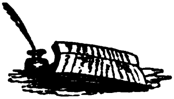
Repeat the table:

4 in 4, once.
4 in 8, 2 times.
4 in 12, 3 times.
4 in 16, 4 times.
4 in 20, 5 times.
4 in 24, 6 times.
4 in 28, 7 times.
4 in 32, 8 times.
4 in 36, 9 times.
4 in 40, 10 times.

LESSON XLVI.

Repeat the table:

5 in 5, once.
5 in 10, 2 times.
5 in 15, 3 times.
5 in 20, 4 times.
5 in 25, 5 times.
5 in 30, 6 times.
5 in 35, 7 times.
5 in 40, 8 times.
5 in 45, 9 times.
5 in 50, 10 times.



1. John wrote 30 lines, having written 5 lines at each lesson. How many lessons did he take in all?

5 in 30 how many times?

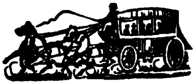
2. Thomas divided 45 peaches equally among 5 of his schoolmates. How many peaches did each receive?

5 in 45 how many times?

LESSON XLVII.

Repeat the table:

6 in 6, once.
6 in 12, 2 times.
6 in 18, 3 times.
6 in 24, 4 times.
6 in 30, 5 times.
6 in 36, 6 times.
6 in 42, 7 times.
6 in 48, 8 times.
6 in 54, 9 times.
6 in 60, 10 times.



1. If one stage-coach can carry 6 passengers, how many stage-coaches will it take to carry 42 passengers?

6 in 42 how many times?

2. At 6 cents each, how many melons can be bought for 24 cents?

6 in 24 how many times?

LESSON XLVIII.

Repeat the table:

7 in 7, once.
7 in 14, 2 times.
7 in 21, 3 times.
7 in 28, 4 times.
7 in 35, 5 times.
7 in 42, 6 times.
7 in 49, 7 times.
7 in 56, 8 times.
7 in 63, 9 times.
7 in 70, 10 times.

1. A steam-ship sails 7 miles an hour. In how many hours will it sail 28 miles?

4 in 28 how many times?

2. At 7 cents a pound, how many pounds of rice can be bought for 56 cents?

7 in 56 how many times?

LESSON XLIX.

Repeat the table:

8 in 8, once.
8 in 16, 2 times.
8 in 24, 3 times.
8 in 32, 4 times.
8 in 40, 5 times.
8 in 48, 6 times.
8 in 56, 7 times.
8 in 64, 8 times.
8 in 72, 9 times.
8 in 80, 10 times.

1. If one printing-press cost 8 dollars, how many printing-presses may be bought for 32 dollars?

8 in 32 how many times?

2. Francis bought 8 writing-books for 80 cents. How much were the writing-books apiece?

8 in 80 how many times?

LESSON L.

Repeat the table:

9 in 9, once.
9 in 18, 2 times.
9 in 27, 3 times.
9 in 36, 4 times.
9 in 45, 5 times.
9 in 54, 6 times.
9 in 63, 7 times.
9 in 72, 8 times.
9 in 81, 9 times.
9 in 90, 10 times.

1. If a soldier can buy a gun for 9 dollars, how many guns can he buy for 18 dollars?
9 in 18 how many times?

2. When 9 dollars will buy a barrel of flour, how many barrels of flour will 63 dollars buy?
9 in 63 how many times?

LESSON LI.

Repeat the table:

10 in 10, once.
10 in 20, 2 times.
10 in 30, 3 times.
10 in 40, 4 times.
10 in 50, 5 times.
10 in 60, 6 times.
10 in 70, 7 times.
10 in 80, 8 times.
10 in 90, 9 times.
10 in 100, 10 times.

1. When one fish costs 10 cents, how many fishes can be bought for 40 cents?
10 in 40 how many times?

2. At 10 cents a yard, how many yards of cloth can be bought for 90 cents?
10 in 90 how many times?

LESSON LII.

1. How many anvils, at 5 dollars each, can be bought for 25 dollars? Why?

Ans. Since 5 dollars will buy one anvil, as many anvils can be bought for 25 dollars as 5 is contained times in 25, which is 5 times. Therefore, at 5 dollars each, 5 anvils can be bought for 25 dollars.

2. How many toy-books, at 3 cents each, can be bought for 18 cents? Why?

3. How many marbles, at 1 cent apiece, can be bought for 9 cents? Why?

4. If 8 books cost 24 cents, what will one book cost? Why?

5. Arthur walked 36 miles in 9 days; how many miles did he walk each day? Why?

LESSON LIII.

1. A sportsman in shooting 6 times shot 30 birds, killing the same number at each shot? How many birds did he kill at a shot? Why?

2. At 7 cents a quart, how many quarts of nuts can be bought for 49 cents? Why?

3. At 10 cents a pound, how many pounds of sugar can be bought for 50 cents? Why?

4. Alfred gave 24 apples for 6 oranges. How many apples did he give for 1 orange? Why?

5. How many skeins of silk, at 5 cents a skein, can be bought for 35 cents? Why?

LESSON LIV.

1. How many are 2 and 1? 2 and 2? 2 and 3? 2 and 9? 2 and 4?

2. How many are 3 and 0? 3 and 6? 3 and 3? 3 and 5? 3 and 8?

3. How many are 4 and 4? 4 and 5? 4 and 7? 4 and 6? 4 and 10?

4. How many are 5 and 5? 5 and 1? 5 and 2? 5 and 8? 5 and 6?

5. How many are 6 and 1? 6 and 2? 6 and 7? 6 and 8? 6 and 9?

6. How many are 7 and 2? 7 and 0? 7 and 3? 7 and 5? 7 and 8? 7 and 10?

7. How many are 8 and 1? 8 and 2? 8 and 4? 8 and 8? 8 and 10?

LESSON LV.

1. How many are 9 and 3? 9 and 8? 9 and 7? 9 and 6? 9 and 10?

2. How many are 10 and 0? 10 and 1? 10 and 2? 10 and 5? 10 and 10?

3. How many are 1 and 3? 3 and 10? 3 and 7? 7 and 7? 9 and 9?

4. Levi has 6 cents, and his father gave him 6 more. How many cents then had he? Why?

5. Charles has in one pocket 7 chestnuts, and in the other 9 more. How many has he in both pockets?

6. In a park there were seen 4 squirrels running on the ground, and 10 on the trees. How many squirrels were there in all?

LESSON LVI.

1. James is 4 years old, and Arthur 6. What is the sum of their ages? Why?

2. A man bought a load of wood for 6 dollars, and a barrel of flour for 9 dollars? How much did both cost?

3. In one field there are 5 oxen feeding, and in another 7. How many oxen are there in both fields?

4. 3 years ago George was 8 years old. How old is he now?

5. Flora recited 5 perfect lessons yesterday, and 5 more to-day. How many did she recite both days?

6. In a cage are 4 old birds, and 8 young birds. How many birds are in the cage?

7. A man bought a chair for 7 dollars, and a desk for 8 dollars. How many dollars did both cost?

8. Jane spent 3 cents for candy, and 9 cents for a book. How much did she spend in all?

9. Albert rode 8 miles in the morning, and 9 in the afternoon. How many miles did he ride in all?

10. Caleb, having spent 9 cents, found he had 10 remaining. How many cents had he at first?

11. A farmer sold to one man 3 sheep, to another 3, and then found he had 7 remaining. How many had he at first?

12. Henry received 4 merit-marks, Rollo 5, and Samuel 7. How many merit-marks did they all receive?

LESSON LVII.

1. Jasper has 4 marbles, Peter 3, and Ezra 6. How many marbles have they all?

2. James is 4 years old, Arthur 2 years, and Edward 1 year. What is the sum of their ages?

3. Jane has 9 cents, Mary 8, and Lydia 5. How many cents have they all?

4. Maria gave her sister 3 apples, lost 2, and had 9 left. How many had she at first?

5. A lady bought a dress for 8 dollars, a bonnet for 9 dollars, and a pair of gloves for 1 dollar. How much did they all cost?

6. If you give 10 cents for an inkstand, 5 for a pen, and 3 for a pencil, how much will they all cost?

7. Eva paid 8 cents for a comb, 4 cents for thread, and had left 2 cents. How much had she at first?

8. Edgar gave John 6 apples, Frank 5, and kept 5 himself. How many apples had he at first?

9. Harvey planted 10 rows of corn one day, and 7 rows the next. How many did he plant in the two days?

10. Willie paid for a coat 9 dollars, for a vest 3, and for a cap 2. How much did he pay for them all?

11. In a lawn there are 10 elm-trees, 4 larches, 1 spruce, and 3 maples. How many trees are there in all?

LESSON LVIII.

1. 1 from 5 leaves how many? 1 from 6? 1 from 3? 1 from 8? 1 from 9?

2. 2 from 2 leaves how many? 2 from 6? 2 from 4? 2 from 10?

3. 3 from 4 leaves how many? 3 from 5? 3 from 10? 8 from 9?

4. 4 from 7 leaves how many? 4 from 8? 4 from 9? 4 from 5?

5. 5 from 9 leaves how many? 5 from 6? 5 from 7? 5 from 8? 5 from 10?

6. 6 from 7 leaves how many? 6 from 8? 6 from 9? 6 from 11? 6 from 12?

LESSON LIX.

1. 7 from 8 leaves how many? 7 from 7? 7 from 9? 7 from 12? 7 from 16?

2. 8 from 8 leaves how many? 8 from 9? 8 from 10? 8 from 12? 8 from 18?

3. 9 from 11 leaves how many? 9 from 13? 9 from 12? 9 from 9? 9 from 15?

4. 10 from 11 leaves how many? 10 from 13? 10 from 16? 10 from 17? 10 from 19?

5. 1 from 0 leaves how many? 2 from 3? 4 from 6? 5 from 11? 6 from 16?

6. Andrew is 19 years old, and Jason is 10. How much older is Andrew than Jason?

LESSON LX.

1. John has 7 cents, and William has 3 cents. How many more cents has John than William? Why?

2. Samuel caught 8 birds, but let 7 of them escape? How many had he left?

3. Isabel is 13 years old, and Susan only 3. How many years older is Isabel than Susan?

4. 12 black-birds were on a fence, but 3 of them have flown away. How many then remained?

5. James had 11 figs, and ate 4 of them. How many has he left?

6. Walter bought 10 slate-pencils, and gave 9 of them away. What number then remained?

7. Gave 11 dollars to Emily, and 7 to Betsey. How many more dollars were given to Emily than to Betsey?

8. Sold a cloak for 14 dollars, and received as part pay 9 dollars. How many dollars remained due?

9. Gave 10 cents for apples, and 12 cents for peaches. How much more was given for the peaches than for the apples?

10. Andrew had 9 chickens, but the hawks have taken 4 of them. How many remain?

11. Edwin had 20 cents, but has given away 10 in charity. How many cents has he left?

LESSON LXI.

1. Ellen had 7 needles, but has lost 5 of them. How many has she left?

2. In a class of 9 boys, only 2 had got their lessons. How many failed to have their lessons?

3. Eli rode 12 miles, and walked 6. How much further did he ride than walk?

4. Paid for a coat 13 dollars, and for a pair of pants 7. How many dollars did the coat cost more than the pants?

5. Nathan bought a slate for 8 cents, and sold it for 13 cents. How much did he gain by the bargain?

6. A man bought a gun for 11 dollars, and sold it for 9. How much did he lose by the sale?

7. From a bucket of water containing 14 quarts there have been taken out 7 quarts. How much is left in the bucket?

8. 16 swallows light on a barn, and 10 of them fly off again. How many remain?

9. Henry is 18 years old, and Willie 9 years. How many years is Henry older than Willie?

10. John answered 19 questions, and Charles only 10. How many more questions did John answer than Charles?

11. If you have 20 dollars, and should lose 10 of them, how many dollars would you have left?

LESSON LXII.

1. John had 19 cents, but has spent for a writing-book 8 cents, and for a pen 2 cents more. How many cents has he left? Why?

2. Helen found in the orchard 15 apples; after she had given 4 of them to Mary, and 5 to Sarah, how many had she left?

3. Jonathan had 6 marbles, and Peter gave him 3 more; but on the way to school he lost 4 of them. How many had he then left? Why?

4. From a flock of 18 sheep the dogs have killed 8, and 1 has died. How many remain alive?

5. Jacob picked 6 quarts of berries one day, and the next day 8 quarts, and sold 9 quarts. How many quarts of berries did he keep?

6. 17 pigeons were flying together at one time; 6 of them were shot, and at another time 2 more. How many of the pigeons escaped?

7. Edgar had 13 chestnuts, but gave Edwin 3, George 2, and Jane 4. How many had he left?

8. James gathered 16 quarts of berries, and sold 6 quarts to one man, and 2 quarts to another. How many then had he left?

9. Edwin earned 18 dollars. After giving his mother 7 dollars, and his sister 1 dollar, he put the rest in the savings bank. How many dollars did he put in the savings bank?

10. Bought a hat for 5 dollars and a vest for 5 dollars more, and gave in payment a 20 dollar bill. How many dollars should be paid back?

LESSON LXIII.

1. How many are 2 times 2? 2 times 3? 2 times 5? 2 times 4? 2 times 7?

2. How many are 3 times 1? 3 times 3? 3 times 6? 3 times 8? 3 times 10?

3. How many are 4 times 3? 4 times 5? 4 times 4? 4 times 9? 4 times 1?

4. How many are 5 times 3? 5 times 6? 5 times 7? 5 times 0? 5 times 10?

5. How many are 6 times 2? 6 times 4? 6 times 6? 6 times 7? 6 times 9?

6. How many are 7 times 3? 7 times 4? 7 times 7? 7 times 8? 7 times 10?

LESSON LXIV.

1. How many are 8 times 1? 8 times 2? 8 times 4? 8 times 6? 8 times 9?

2. How many are 9 times 2? 9 times 3? 9 times 7? 9 times 6? 9 times 10?

3. How many are 10 times 1? 10 times 2? 10 times 6? 10 times 4? 10 times 10?

4. How many are 2 times 6? 3 times 4? 5 times 8? 4 times 7? 6 times 3? 9 times 9?

5. How many are 6 times 0? 6 times 1? 2 times 10? 4 times 10? 5 times 2? 7 times 2? 7 times 9?

6. When sugar is sold at 8 cents a pound, how much must be paid for 3 pounds? Why?

LESSON LXV.

1. John has 5 marbles, and James has 6 times as many as John. How many has James? Why?

2. At 4 dollars apiece, what cost 8 sheep? Why?

3. At 5 cents a quart, how much must be paid for 3 quarts of milk?

4. Charles found 3 eggs, and Alfred 6 times as many. How many did Alfred find?

5. If Henry writes 7 lines a day, how many will he write in 6 days?

6. If one pound of starch cost 8 cents, what will 5 pounds cost?

7. Emma gathered 6 strawberries, and her sister 5 times as many. How many did her sister gather?

8. A farmer raised 5 bushels of peas, and 7 times as many bushels of beans. How many bushels of beans did he raise?

9. If one cord of wood cost 8 dollars, how many dollars will 6 cords cost?

10. How many cents must be paid for 9 pounds of cheese, at 10 cents a pound?

11. There are on the lake 6 boats, and 10 persons in each boat. How many persons are in all the boats?

12. If 8 apples will buy one ruler, how many apples will it take to buy 7 rulers?

13. How many roses are on 9 bushes, if there are 6 on each bush?

LESSON LXVI.

1. What cost 9 yards of cloth, at 2 dollars a yard? Why?

2. What cost 6 pairs of boots, at 4 dollars a pair? Why?

3. If Robert can walk 3 miles in one hour, how many miles can he walk in 7 hours? Why?

4. What will cost 6 loaves of bread, at 8 cents a loaf? Why?

5. At 10 cents a pound, what will 5 pounds of raisins cost?

6. If there are 8 panes of glass in one window, how many panes are there in 7 windows?

7. Emily gave 3 beggars 9 cents each. How much did she give them all?

8. If a boy earn 4 dimes in a day, how many dimes will he earn in 7 days?

9. At 10 cents an hour, how many cents may be earned in 10 hours?

10. Augustus picked 9 quarts of berries. If he gets 9 cents a quart for them, how many cents will he obtain?

11. If a schólar can perform 9 examples in one hour, how many can he perform in 7 hours?

12. If Samuel should recite 6 perfect lessons in one day, how many perfect lessons would he recite in 10 days?

LESSON LXVII.

1. How many times 2 in 4? In 8? In 6? In 10? In 2?
2. How many times 3 in 9? In 6? In 12? In 15? In 27?
3. How many times 4 in 4? In 16? In 20? In 32? In 40?
4. How many times 5 in 10? In 25? In 30? In 40? In 5? In 50?
5. How many times 6 in 12? In 18? In 6? In 42? In 60?
6. How many times 7 in 14? In 21? In 35? In 49? In 63?
7. How many times 8 in 8? In 16? In 24? In 56? In 72?

LESSON LXVIII.

1. How many times 9 in 18? In 36? In 54? In 45? In 9? In 90?
2. How many times 10 in 20? In 30? In 70? In 10? In 90? In 100?
3. How many times 2 in 18? In 12?
4. How many times 3 in 3? In 21?
5. How many times 5 in 35? In 45?
6. How many times 6 in 24? In 54?
7. How many times 8 in 32? In 80?
8. How many times 9 in 27? In 72?
9. How many times 10 in 40? In 70?
10. How many times 7 in 28? In 56?
11. How many times 10 in 80? 9 in 63?

LESSON LXIX.

1. If a man earn 2 dollars a day, how many days will it take him to earn 18 dollars?

2. At 2 cents each, how many oranges can be bought for 20 cents? Why?

3. For 24 cents how many pencils may be bought, at 3 cents apiece? Why?

4. How many pens, at 4 cents apiece, can you buy for 28 cents?

5. If a quart of milk cost 5 cents, how many quarts can be bought for 30 cents?

6. At 7 cents a pound, how many pounds of rice can be bought for 42 cents?

7. How many hats, at 4 dollars apiece, can be bought for 16 dollars?

8. If you have 32 pears to divide equally between 8 boys, how many can you give each of them?

9. How many pounds of veal, at 9 cents a pound, can you buy for 54 cents?

10. How many dozen of eggs, at 10 cents a dozen, will 50 cents buy?

11. Mary distributed 45 apples equally between 9 schoolmates. How many did she give to each?

12. When chestnuts are 8 cents a quart, how many quarts can you buy for 80 cents?

13. Frank bought 6 barrels of flour for 48 dollars. How much did he pay a barrel?

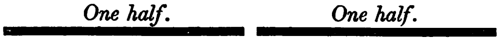
14. How many pounds of sugar, at 9 cents a pound, can be bought for 90 cents?

LESSON LXX.

1. 18 are how many times 3?
2. 12 are how many times 4?
3. 16 are how many times 2?
4. 21 are how many times 7?
5. 32 are how many times 8?
6. 4 times 6 are how many times 8?
7. 2 times 9 are how many times 6?
8. 2 times 10 are how many times 5?
9. 3 times 6 are how many times 9?
10. How many dozen of eggs, at 10 cents a dozen, must be given for 5 pounds of starch, at 8 cents a pound?
11. How many cords of wood, at 5 dollars a cord, must be given for 10 yards of broadcloth, at 4 dollars a yard?
12. If 4 oranges cost 12 cents, what will 5 oranges cost?
13. If 5 quarts of milk cost 30 cents, what will 3 quarts cost?
14. How many caps can be bought for 18 dollars, when 3 caps cost 6 dollars?
15. How many copy-books may be made from 24 sheets of paper, when 8 sheets make 2 copy-books?
16. If a horse consume 16 bushels of oats in 8 weeks, how many will he consume in 5 weeks?
17. If 3 barrels of flour cost 27 dollars, how many dollars will 7 barrels cost?

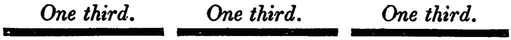
LESSON LXXI.

1. If a line or anything be divided into 2 equal parts, what is one of those parts called? ANS. One half.



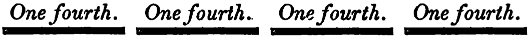
2. How many halves make a whole one? ANS. Two.

3. If a line or anything be divided into 3 equal parts, what is one of those parts called? ANS. One third.



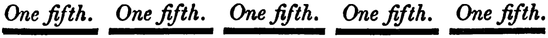
4. How many thirds make a whole one? ANS. Three.

5. If a line or anything be divided into 4 equal parts, what is one of those parts called? ANS. One fourth.



6. How many fourths make a whole one? ANS. Four.

7. If a line or anything be divided into 5 equal parts, what is one of those parts called? ANS. One fifth.



8. How many fifths make a whole one?

9. If a line or anything be divided into 6 equal parts, what is one of those parts called? ANS. One sixth.

10. How many sixths make a whole one?

LESSON LXXII.

1. When anything is divided into 7 equal parts, what is one of those equal parts called? ANS. One seventh.

2. How many sevenths make a whole one?

3. What is meant by one eighth of anything?

ANS. One of the eight equal parts into which a thing is divided.

4. How many eighths make a whole one?

5. What is meant by one ninth of anything?

6. How many ninths make a whole one?

7. What is meant by one tenth of anything?

8. How many tenths make a whole one?

9. James had 2 fourths of a dollar, and his mother gave him one fourth more. How many fourths of a dollar then had he?

10. 2 fifths of an acre are planted with beets, and 2 fifths with carrots. What part of an acre is planted with both?

11. 3 eighths and 4 eighths are how many eighths?

12. George gave 2 sixths of a melon to his brother, and to his sister 3 sixths. What part did he give away in all?

13. Bought a book for 2 fourths of a dollar, and sold it for 3 fourths of a dollar. How much is gained by the sale?

14. If you should have 5 sevenths of a pound of candy, and should give away 3 sevenths of a pound, how much would you have left?

15. 8 ninths less 6 ninths are how many ninths?

LESSON LXXIII.

1. How many halves are there in one orange?

2. How many halves in 2 oranges? Why?

ANS. Since there are 2 halves in one orange, in 2 oranges there are 2 times 2 halves, which are 4 halves.

3. How many halves in 3 oranges? In 4 oranges? In 5 oranges? In 6 oranges? In 7 oranges? In 9 oranges?

4. How many thirds in 2 apples? Why?

5. How many thirds in 3 apples? In 4 apples? In 5 apples? In 6 apples? In 7 apples?

6. How many fourths in one melon? In 2 melons? Why?

7. How many fourths in 3 pears? In 5 pears? In 6 pears? In 8 pears? In 10 pears?

8. If one half of a melon cost 6 cents, how much will 2 halves or a whole melon cost? Why?

ANS. Since one half costs 6 cents, 2 halves or a whole one will cost 2 times 6 cents, which are 12 cents.

9. If one third of a pie cost 4 cents, how much will a whole pie cost?

10. 4 is one third of what number? Why?

11. If one fifth of an acre of land is worth 6 dollars, how much is 2 fifths worth? Why?

12. If one fourth of a yard of cloth cost 8 cents, how much will 2 fourths cost? 3 fourths? A whole yard?

13. When one sixth of a yard of cloth costs 9 cents, what is the cost of a whole yard?

14. John lost 10 cents, which was one tenth of all the money he had. How much money had he?

LESSON LXXIV.

1. In 4 halves of a dollar, how many dollars? Why?

Ans. Since there are 2 halves in one dollar, in 4 halves of a dollar there are as many dollars as 2 halves is contained times in 4 halves, which is 2.

2. In 6 halves of an orange, how many oranges? In 8 halves? In 10 halves?

3. In 6 thirds of an apple, how many apples? In 9 thirds? In 12 thirds?

4. How many whole ones in 4 fourths? In 8 fourths? In 12 fourths? In 16 fourths?

5. How many whole ones in 10 fifths? Why?

6. How many whole ones it 12 sixths? Why?

7. If a yard of ribbon cost 4 cents, how much will one half, of a yard cost? Why?

Ans. Since a whole yard cost 4 cents, one half of a yard will cost one half of 4 cents, which is 2 cents.

8. If a melon is worth 10 cents, how much is half a melon worth? Why?

9. One half of 10 is how many?

10. If a cord of wood is worth 8 dollars, how much is one fourth of a cord worth?

11. One fourth of 8 is how many?

12. At 10 dollars a barrel, what will one fifth of a barrel of flour cost? Two fifths?

13. One third of 12 is how many?

14. A man is 35 years old, and his son is one seventh as old. How old is his son?

15. At 63 cents a yard, what is one ninth of a yard of cloth worth? Two ninths? Four ninths? Six ninths? Eight ninths?

WRITTEN ARITHMETI

LESSON I.

1. What is that you have now been attending to called?

Ans. Arithmetic.

2. Of what does Arithmetic treat?

Ans. Numbers.

3. What does Arithmetic teach?

Ans. How to reckon by numbers.

NOTATION AND NUMERATION.

1. Write on the slate or black-board, in figures: one, five, six, four, seven, eight, ten, nine.

2. What is the writing of numbers in figures called?

Ans. Notation.

3. Read the following figures: 2, 5, 6, 4, 8, 10, 9, 11, 12.

4. What is the reading of figures called?

Ans. Numeration.

5. Repeat the table:

10 Units make 1 Ten.
10 Tens " 1 Hundred.
10 Hundreds " 1 Thousand.

6. How many units make 1 ten? 2 tens? 3 tens? 4 tens? 5 tens? 6 tens? 7 tens? 8 tens? 9 tens? 10 tens?

7. How many tens in 20 units? In 30 units? In 40 units? In 50 units? In 60 units? In 80 units? In 90 units? In 100 units?

LESSON II.

NUMERATION TABLE.

Thousands.	Hundreds.	Tens.	Units.		
			9,	read	Nine.
		1	6,	"	Sixteen.
	4	2	3,	"	Four hundred and twenty-three.
5	7	6	8,	"	Five thousand, seven hundred and sixty-eight.

10. Numerate and read the number expressed by the figure 9, in the first line of the table.

Ans. 9 units, read nine.

11. Numerate and read the number expressed by the figures 1, 6, in the second line of the table.

Ans. 6 units and 1 ten, read sixteen.

12. Numerate and read the number expressed by the figures 4, 2, 3, in the third line of the table.

Ans. 3 units, 2 tens, and 4 hundreds, read four hundred and twenty-three.

13. Numerate and read the number expressed by the figures 5, 7, 6, 8, in the fourth line of the table.

Ans. 8 units, 6 tens, 7 hundreds, and 5 thousands, read five thousand seven hundred and sixty-eight.

14. What, then, are the names given to the several places of figures in the table, beginning at the right-hand place?

Ans. Units, tens, hundreds, thousands.

15. Numerate and express in words the numbers represented by the following figures:

6	23	106	1660
8	44	312	3101
10	55	578	7102
12	61	192	10345

LESSON III.

ADDITION.

1. How many are 7 and 3? 6 and 5 and 1?

2. What is the collecting of two or more numbers into one sum called?

Ans. Addition.

3. What is the sum of two or more numbers called?

Ans. Their amount.

Exercises for the Slate.

(1.)	(2.)	(3.)	(4.)	(5.)	(6.)
2	3	4	3	5	7
2	2	3	3	1	1
1	1	2	1	3	1
Ans. 5					

(7.)	(8.)	(9.)	(10.)	(11.)	(12.)
6	7	8	9	5	8
3	4	5	3	6	6

(13.)	(14.)	(15.)	(16.)	(17.)	(18.)
14	17	10	31	43	16
4	2	12	37	26	30

(19.)	(20.)	(21.)	(22.)	(23.)	(24.)
17	16	17	25	42	56
4	18	8	15	19	36

(25.)	(26.)	(27.)	(28.)	(29.)	(30.)
40	51	21	10	42	62
60	72	93	91	44	71

LESSON IV.

(31.)	(32.)	(33.	(34.)	(35.)	(36.)
16	17	60	13	14	16
31	11	70	33	30	16
41	42	55	40	12	34

(37.)	(38.)	(39.)	(40.)	(41.)	(42.)
167	564	271	924	516	810
710	432	808	442	731	201
311	500	520	412	102	401

(43.)	(44.)	(45.)	(46.)	(47.)	(48.)
610	612	171	143	816	771
132	390	301	261	191	117
70	10	112	412	101	231

(49.)	(50.)	(51.)	(52.)	(53.)	(54.)
781	257	126	391	182	910
631	861	275	710	921	297

(55.)	(56.)	(57.)	(58.)	(59.)	(60.)
416	413	103	129	812	700
112	142	451	310	104	511
301	603	261	230	222	132
140	21	112	12	100	410

(61.)	(62.)	(63.)	(64.)	(65.)
4131	5410	7102	8201	9102
4121	3444	1703	2143	1034

(66.)	(67.)	(68.)	(69.)	(70.)
4831	9102	1111	1345	9810
7201	6132	9109	19	1518

LESSON V.

(71.)	(72.)	(73.)	(74.)	(75.)
1241	6130	2712	1717	1007
3212	1021	7181	1202	2100
4106	1210	1104	1102	1527
1210	1418	3010	3370	1013

76. Add together 4, 6, 3, and 10.
77. Add together 10, 15, 11, and 35.
78. Add together 106, 412, and 112.
79. Add together 316, 532, and 230.
80. Add together 1631, 8102, and 3120.

81. A farmer has in one pasture 162 sheep, and in another pasture 217. How many has he in both pastures?

82. A man gave 125 dollars for a chaise, 250 dollars for a horse, and 30 dollars for a harness. How much did they all cost him?

83. Samuel is 14 years old, John 19 years, and their father 50 years. What is the sum of their ages?

84. In an orchard 421 trees bear apples, 125 bear pears, 78 bear cherries, 69 bear peaches, and 10 bear plums. How many trees are there in all?

85. A merchant paid 1630 dollars for cloth, and 5167 dollars for other goods. How much did he pay for the whole?

86. A butcher sold 475 pounds of beef to one man, 684 pounds to another, and 986 pounds to another. How many pounds did he sell in all?

LESSON VI.

SUBTRACTION.

1. If 4 be taken from 9, how many will remain? 6 from 7? 8 from 15?

2. What is the taking of one number from another to find their difference called?

Ans. Subtraction.

3. What is the larger of the two numbers given in Subtraction called?

Ans. The Minuend.

4. What is the smaller of the two numbers given in Subtraction called?

Ans. The Subtrahend.

5. What is the result obtained by Subtraction called?

Ans. The Difference or Remainder.

Exercises for the Slate.

	(1.)	(2.)	(3.)	(4.)	(5.)	(6.)
From	8	9	7	6	9	8
Take	5	4	3	2	7	1
	(7.)	(8.)	(9.)	(10.)	(11.)	(12.)
	4	5	9	7	8	9
	2	3	8	6	8	3
	(13.)	(14.)	(15.)	(16.)	(17.)	(18.)
	12	13	17	19	18	16
	2	3	4	8	8	5
	(19.)	(20.)	(21.)	(22.)	(23.)	(24.)
	11	12	15	14	17	20
	5	6	9	5	7	10

LESSON VII.

	(25.)	(26.)	(27.)	(28.)	(29.)	(30.)
From	22	26	29	35	38	47
Take	10	12	13	15	14	23
	(31.)	(32.)	(33.)	(34.)	(35.)	(36.)
	55	58	62	73	81	96
	24	41	12	32	41	75
	(37.)	(38.)	(39.)	(40.)	(41.)	(42.)
	28	37	21	32	25	44
	19	26	16	24	16	42
	(43.)	(44.)	(45.)	(46.)	(47.)	(48.)
	55	63	71	84	81	94
	41	58	19	65	11	85
	(49.)	(50.)	(51.)	(52.)	(53.)	(54.)
	138	156	163	247	452	197
	24	45	41	36	31	14
	(55.)	(56.)	(57.)	(58.)	(59.)	(60.)
	363	728	556	479	623	784
	141	128	323	246	101	342
	(61.)	(62.)	(63.)	(64.)	(65.)	(66.)
	783	894	932	844	724	975
	572	265	303	326	617	846
	(67.)	(68.)	(69.)	(70.)	(71.)	(72.)
	547	568	433	455	719	880
	256	370	152	163	431	780

LESSON VIII.

	(73.)	(74.)	(75.)	(76.)	(77.)
From	2602	2162	7160	1000	8443
Take	1402	1052	1000	100	4523

78. From 14 take 7.
79. From 19 take 11.
80. From 34 take 8.
81. From 75 take 25.
82. From 83 take 34.
83. From 68 take 9.
84. From 87 take 63.
85. From 92 subtract 13.
86. From 68 subtract 16.
87. From 77 subtract 28.

88. If a boat-load of corn be bought for 415 dollars and sold for 528 dollars, how many dollars will be gained by the sale?

89. A house which cost 1785 dollars was sold for 1672 dollars. For how many dollars less than the cost was it sold?

MULTIPLICATION.

1. How many are 6 times 7? 4 times 3? 5 times 8? 6 times 3? 7 times 5?

2. What is this short way of taking a number a certain number of times called?

Ans. Multiplication.

3. What is the number to be multiplied or taken called?

Ans. The Multiplicand.

4. What is the number given to multiply by called?

Ans. The Multiplier.

5. What is the result, or the number found by multiplying, called?

Ans. The Product.

LESSON IX.

EXERCISES FOR THE SLATE.

	(1.)	(2.)	(3.)	(4.)	(5.)	(6.)
Multiply	6	5	7	9	4	8
By	2	4	3	5	7	6
	(7.)	(8.)	(9.)	(10.)	(11.)	(12.)
	11	12	12	14	14	13
	3	3	4	2	3	2
	(13.)	(14.)	(15.)	(16.)	(17.)	(18.)
	22	31	23	24	33	44
	3	2	3	2	3	2
	(19.)	(20.)	(21.)	(22.)	(23.)	(24.)
	51	42	62	71	81	52
	4	4	3	5	5	5
	(25.)	(26.)	(27.)	(28.)	(29.)	(30.)
	121	424	841	426	304	128
	4	2	3	5	4	5
	(31.)	(32.)	(33.)	(34.)	(35.)	(36.)
	216	412	402	211	201	631
	6	6	7	9	9	7
	(37.)	(38.)	(39.)	(40.)	(41.)	(42.)
	323	410	622	913	412	713
	3	4	4	3	5	2
	(43.)	(44.)	(45.)	(46.)	(47.)	(48.)
	614	735	101	901	420	814
	7	8	9	9	8	8

LESSON X.

	(49.)	(50.)	(51.)	(52.)	(53.)
Multiply	2123	3231	4142	6104	7221
By	3	3	2	2	4
	(54.)	(55.)	(56.)	(57.)	(58.)
	6013	7102	5211	5212	1234
	4	5	5	4	6
	(59.)	(60.)	(61.)	(62.)	(63.)
	2136	3401	2725	1710	1061
	6	6	7	7	8
	(64.)	(65.)	(66.)	(67.)	(68.)
	4131	7121	6012	2041	8106
	8	7	9	9	9

69. Multiply 11 by 4.
70. Multiply 12 by 3.
71. Multiply 23 by 4.
72. Multiply 42 by 5.
73. Multiply 113 by 6.
74. Multiply 233 by 7.
75. Multiply 761 by 5.
76. Multiply 443 by 8.

77. If a man travel 35 miles in one day, how far will he travel in 9 days?

78. There are 63 gallons in one hogshead. How many gallons in 6 hogsheads?

79. What cost 162 barrels of flour, at 7 dollars a barrel?

80. If a man earn 650 dollars in one year, how many dollars will he earn in 8 years?

81. If the distance through the earth is 7920 miles, and the distance round it three times as much, how many miles is it round the earth?

LESSON XI.

DIVISION.

1. In 24 how many times 4? How many times 6? How many times 8?

2. What is the process of finding how many times one number is contained in another called?
ANS. Division.

3. What is the number to be divided called?
ANS. The Dividend.

4. What is the number by which we divide called?
ANS. The Divisor.

5. What is the number obtained by dividing called?
ANS. The Quotient.

6. What is the number which is sometimes left after dividing called? ANS. The Remainder.

EXERCISES FOR THE SLATE.

(1.)	(2.)	(3.)
Divisor 2)8 Dividend. 4 Quotient.	3)18	5)25

(4.)	(5.)	(6.)	(7.)	(8.)	(9.)
3)36	4)48	3)69	3)39	4)44	5)55
(10.)	(11.)	(12.)	(13.)	(14.)	(15.)
6)42	6)72	7)84	7)49	6)36	4)64
(16.)	(17.)	(18.)	(19.)	(20.)	(21.)
6)90	8)88	8)96	9)90	9)99	4)56

(22.)	(23.)	(24.)	(25.)	(26.)
2)642	4)844	3)639	5)510	6)612

LESSON XII.

(27.)	(28.)	(29.)	(30.)	(31.)
8)816	8)824	7)721	7)847	9)918
(32.)	(33.)	(34.)	(35.)	(36.)
2)43	3)68	4)167	4)847	5)563
21,1 rem.				
(37.)	(38.)	(39.)	(40.)	(41.)
4)486	5)256	6)103	7)4900	8)254

42. Divide 484 by 4.
43. Divide 515 by 5.
44. Divide 618 by 6.
45. Divide 847 by 7.
46. Divide 910 by 8.
47. Divide 521 by 7.
48. Divide 1631 by 4.
49. Divide 9199 by 9.

50. If you divide 48 apples equally between 4 schoolmates, how many will each receive?

51. A certain school of 125 scholars is divided into 5 equal divisions. How many scholars in each division?

52. A bridge is 363 feet long, and consists of 3 arches of equal length. How many feet in each arch.

53. 147 dollars have been equally divided between 7 men. How many dollars did each receive?

54. A farmer has 279 acres of land divided into 9 equal lots. How many acres are there in each lot?

55. If a man travels 248 miles in 8 days, how many miles does he travel in 1 day?

56. A man divided equally between his 6 sons 2586 dollars. How many dollars did each receive?

LESSON XIII.

TABLES OF MONEY, WEIGHTS, AND MEASURES.

UNITED STATES MONEY.

10 Mills	make	1 Cent,	marked	c.
10 Cents	"	1 Dime,	"	d.
10 Dimes	"	1 Dollar,	"	$.
10 Dollars	"	1 Eagle,	'	E.

ENGLISH MONEY.

4 Farthings	make	1 Penny,	marked	d.
12 Pence	"	1 Shilling,	"	s.
20 Shillings	"	1 Pound,	"	£.
21 Shillings sterling	"	1 Guinea,	"	guin.

TROY WEIGHT.

24 Grains	make	1 Pennyweight,	marked	dwt.
20 Pennyweights	"	1 Ounce,	"	oz.
12 Ounces	"	1 Pound,	"	lb.

AVOIRDUPOIS WEIGHT.

16 Drams	make	1 Ounce,	marked	oz.
16 Ounces	"	1 Pound,	"	lb.
25 Pounds	"	1 Quarter,	"	qr.
4 Quarters	"	1 Hundred-weight,	"	cwt.
20 Hundred-weight	"	1 Ton,	"	ton.

CLOTH MEASURE

2¼ Inches	make	1 Nail,	marked	na.
4 Nails	"	1 Quarter of a Yard,	"	qr.
4 Quarters	"	1 Yard,	"	yd.
3 Quarters	"	1 Ell Flemish,	"	E. F.
5 Quarters	"	1 Ell English,	"	E. E.

NOTE. 2¼ is read two and one-fourth.

LESSON XIV.

LONG MEASURE.

12 Inches	make	1 Foot,	marked	ft.
3 Feet	"	1 Yard,	"	yd.
5½ Yards, or 16½ Feet,	"	1 Rod, or Pole,	"	rd.
40 Rods	"	1 Furlong,	"	fur.
8 Furlongs	"	1 Mile,	"	m.
3 Miles	"	1 League,	"	lea.
69⅙ Miles (nearly)	"	1 Degree,	"	deg. °.
360 Degrees	"	1 Circle of the Earth.		

NOTE. 5½ and 16½ are read five and one half, and sixteen and one half; 69⅙ is read sixty-nine and one sixth.

WINE OR LIQUID MEASURE.

4 Gills	make	1 Pint,	marked	pt.
2 Pints	"	1 Quart,	"	qt.
4 Quarts	"	1 Gallon,	"	gal.
63 Gallons	"	1 Hogshead,	"	hhd.
2 Hogsheads	"	1 Pipe or butt,	"	pi.
2 Pipes or 4 Hhds.	"	1 Tun,	"	tun.

DRY MEASURE.

2 Pints	make	1 Quart,	marked	qt.
4 Quarts	"	1 Gallon,	"	gal.
2 Gallons	"	1 Peck,	"	pk.
4 Pecks	"	1 Bushel,	"	bu.
36 Bushels	"	1 Chaldron,	"	ch.

MEASURE OF TIME.

60 Seconds (sec.)	make	1 Minute,	marked	m.
60 Minutes	"	1 Hour,	"	h.
24 Hours	"	1 Day,	"	d.
7 Days	"	1 Week	"	w.
365¼ Days, or 52 Weeks 1¼ days,	"	1 Year,	"	y.
12 Calendar Months	"	1 Year,	"	y.

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